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Audit & Feedback on clinical guideline adherence: a systematic review and meta-analysis of RCTs

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AIM

To examine which **design characteristics, cointerventions and contextual factors** explain variance in effectiveness of Audit & Feedback (A&F) interventions targeting clinical guideline adherence of hospital-based medical specialists.

INTRODUCTION

Clinical guideline adherence varies, resulting in low value care.

A&F can effectively improve guideline adherence, but it is **unclear how to design A&F** for optimal effectiveness.

METHOD

Systematic Review and meta-analysis of RCTs.

- MEDLINE, Embase and Web of Science were searched up to January 19th 2024.
- Screening: **4678 articles** ti/ab, 87 full-text, 41 studies were included
- Two reviewers independently screened articles. Data on design characteristics, co-interventions, contextual factors and outcomes were extracted. Risk of Bias was assessed using the ROB2 tools.
- Results were described descriptively and when appropriate a meta-analysis using a random effects model was performed.

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CONCLUSIONS

- A&F showed a positive effect on clinical guideline adherence in medical specialist care.
- In contrast to previous reviews, **limited heterogeneity in A&F effectiveness across studies** was found.
- First A&F review to document the **within-study variation in A&F effectiveness, emphasizing the influence of clinical topics and context**.
- This review highlights the **variability in cointerventions** used alongside A&F, underscoring challenges in comparing A&F trials.

RESULTS

41 studies were included with 3 types of comparisons:

- 1) A&F vs. **No intervention** (N=14)
- 2) A&F vs. **Other intervention** (N=12)
- 3) A&F vs. **A&F** (N=21)

Meta-analysis showed a **significant improvement of clinical guideline adherence:**

A&F vs No intervention: OR 1.19 (95% CI 1.16–1.23, $I^2=0.0\%$, N=14)

A&F vs. Other intervention: OR 1.80 (95% CI 1.42–2.28, $I^2=56.3\%$, $N=9$)

Risk of bias was low in 6 six studies, with some risk in 19 studies and high in 16 studies.

- **Design characteristics:** no differences in subgroup analyses.
- **Co-interventions:** large variation in cointerventions used alongside A&F, incomparable for subgroup analyses
- **Context factors:** poor reporting, precluding subgroup analyses

Of note:

- **Within study variation in effect size was large**, between different guideline indicators and between intervention sites.

- **Across study variation in effect size was small**, while variation in design characteristics, cointerventions and context was large.

